



Using NetApp Filers with Cadence

TECHNICAL REPORT

Network Appliance, a pioneer and industry leader in data storage technology, helps organizations understand and meet complex technical challenges with advanced storage solutions and global data management strategies.

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Introduction

The Cadence development environment's Cadence Network Lock Manager maintains lock information for Cadence applications running throughout a LAN. This function is performed by the cdsLock service of cdsd (Cadence Design System Daemon). For use with a non-UNIX file server such as a NetApp filer, Cadence developed the Lock Management Proxy Facility of the cdsLock service, which allows one machine to lock files for a second machine. This means the second machine (the NetApp filer) does not need to run a cdsd process.

Background

The locking facility within the Cadence environment is described in the Cadence System Administration User Guide [[Cadence91](#)], as follows:

"Each system containing Cadence design databases usually runs a local cdsd process. The cdsLock service of this local cdsd manages and tracks all file locks requested on any of the disks physically connected to the local system. If an application requests a file lock for a file element on an NFS-mounted file system, the cdsLock on that system records the lock.

"In this environment, the cdsLock service holds responsibility only for file locks on the local system. These file locks can belong to local or remote Cadence applications. Remote applications transparently contact the local cdsd to register a local file lock.

"Cadence supports a wide variety of UNIX platforms. A corresponding cdsd binary is available for each supported UNIX port. Considering the wide customer base and the variety of computer resources available, however, Cadence cannot port cdsd to every possible platform. Some platforms do not even have UNIX operation systems [including NetApp filers]. Cadence solved the problem of unsupported platforms by developing the Lock Management Proxy Facility of the cdsLock service, which allows one machine to lock files for a second machine. This means the second machine [a NetApp filer] does not need to run a cdsd process."

The Cadence System Administration User Guide [[Cadence91](#)] describes the proxy feature in the section "Using the Lock Management Proxy Facility" of Chapter 2, "License Management and File Locking". This application note provides an overview to the process. Refer to that Cadence Guide for details on how to use the cdsd's cdsLock proxy facility.

Implementing the CDS D Proxy Feature

To use the proxy file locking with a NetApp filer, first check to be sure that the systems running Cadence software are able to NFS-mount the file system on the NetApp filer. Most systems running Cadence software can be NFS clients.

Next you must define a proxy file on the Cadence client workstation /etc/license. The format of the file is as follows:

```
# Optional comment lines begin with this "#" symbol
server proxy prefix
```

The first field "server," is the hostname of the NetApp filer for which the proxy is being defined. The second field, "proxy," is the hostname of the system which will act as the proxy. The third field, "prefix," identifies the lock requests on the unsupported system. It is prepended to the path

of the file to be locked. This allows the cdsLock service on the proxy machine to distinguish lock requests for local files from lock requests for files on the NetApp filer.

For example, suppose users with a NetApp filer named "toaster" want the Cadence software and design databases to reside on the disks of the filer. From their UNIX SPARCstations, the users can NFS-mount the filer's file system in order to provide access to the Cadence applications and their design databases.

For this example a SPARCstation called "sunspot" has been selected to proxy for the FAServer called toaster. The proxy file \$CADINST/etc/license/proxy installed on sunspot contains:

```
# Define SPARCstation (sunspot) to be a lock
# proxy for the NetApp filer (toaster)

toaster sunspot toaster_proxy
```

When a Cadence application somewhere on the LAN requests a file lock of toaster:/cds/4.2/data/testLib, this proxy file causes the request to be treated as a lock request of sunspot:/toaster_proxy/cds/4.2/data/testLib. The cdsLock on sunspot registers the lock.

References

[Cadence91] *Cadence System Administration User Guide*, pp 2-25 through 2-27 Cadence p/n 04-15004-0301, Version 4.2, October 1991



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